REMARKS

Double Patenting

The examiner provisionally rejected Claims 1-25 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-26 of co-pending Application No. 10/734,618.

> **Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are directed to substantially the same subject matter of a remote sensing robot/mannequin and goggles for viewing the remote images. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.**

Applicant disagrees. According to MPEP §1504.06 (emphasis added): "An obviousness-type double patenting rejection must be based on the obviousness standard of 35 U.S.C. 103(a)", not based on whether the claims are directed to "**substantially the same subject matter.**" The claims of the present application are not obvious in view of any of the four co-pending applications, and in particular 10/734,618, nor are the claims of any of the four co-pending applications obvious in view of the claims of the present application.

For example, claim 1 of the present application recites:

> ... the first processor overlaying a virtual environment over one or more portions of the received real-time first image to form a first image of a virtual scene with the first image of the virtual scene including at least one remaining portion of the real-time first image, and sending the first image of the virtual scene including the at least one remaining portion of the real-time first image in real time to a communications network.

None of the claims in any of the four co-pending applications or 10/734,618 describes or would have made obvious these features.

Accordingly the rejection is improper and should be removed.

35 USC § 112

The examiner rejected Claims 3-7, 9-11 and 13 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The examiner stated:

> **... Claim 3 includes the limitation "a second humanoid robot, receiving, from the communications network, the motion signals from the motion sensors, the motion signals from the motion sensors causing a movement of the second robot that is correlated to a movement of the body suit." This limitation in concert with the limitations of the preceding claims makes it so the body suit receives tactile signals from a first robot and sends motion signals to the second robot. This method of operation is not disclosed in the specification, which describes one suit receiving information from and controlling the same remote robot. Claims 4-7, 9-11, and 13 inherit this deficiency by nature of their dependency.**

Support for this feature of claim 3 is found, e.g., in claim 3, as originally filed, and in published application, paragraphs [0038] and [0041]. In particular, claim 3 (depending from claim 2) as originally filed included the following limitations:

> ... a body suit having tactile actuators, the tactile actuators receiving tactile signals from the communications network (claim 2 as originally filed),
> motion sensors positioned throughout the body suit, the motion sensors sending motion signals corresponding to each sensor relative to a reference point ....

In addition claim 7 as originally filed had the following limitations. ""... the robot is at a first location and the set of goggles is at a second location the system further comprising: a second humanoid robot in the second location, the second robot having a second microphone and a second camera; and a second set of goggles to receive the video signals from the first camera and a second earphone to receive the audio signals from the first microphone."

"Paragraphs [0038] and [0041] describe (emphasis added):

> **[0038] Referring to FIGS. 7A and 7B, the user 22a is shown wearing motion sensors 101, over portions of their bodies, and in particular over those portions of the body that exhibit movement. In addition, the mannequins are replaced by robots. For example, a robot 12b includes a series of motion actuators 103. Each motion actuator 103 placement corresponds to a motion sensor 101 on the user 22a so that each motion sensor activates a motion actuator in the robot that makes the corresponding movement.**

> **[0042] Referring to FIGS. 9A and 9B, in other embodiments, sensors are placed over various parts of a robot. Corresponding actuators can be sewn in the interior of a body suit that is worn by a user. The sensors and their corresponding actuators are calibrated so that more sensitive regions of a human are calibrated with a higher degree of sensitivity.**

Accordingly, a body suit for a user can include both actuators and sensors. The actuators on the body suit can be activated by motion sensors associated with a robot and the sensors on the body suit can send signals to motion actuators associated with a robot. Applicant makes

provisions for multiple users, multiple gateways, multiple robots, sensors, suits etc. thus by implication as well as written description these claims are described.

The examiner rejected Claims 24 and 25 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The examiner stated:

> **... Claim 24 includes the limitation, "a set of goggles having a display, the set of goggles receiving and rendering on the display at least one of the first image of a virtual scene and the second image of a virtual scene".**
> **The specification as filed does not disclose the set of goggles of being capable of showing more than one of the images. Claim 25 inherit this deficiency by nature of their dependency.**

Applicant requests clarification of this rejection. Does the examiner mean that a set of goggles that include a display can only display one image? Inherently goggles that include display will display anything that is sent to it provided it is a video, etc. signal. So this rejection is clearly in error and should be removed.

The examiner rejected Claims 1, 3-13 and 24-25 under 35 U.S.C. 112, second paragraph, as being indefinite.

The examiner stated: "**10. Claim 1 recites the limitation "the received real-time first image" in the seventh line and "the real-time first image" in the eighth line. There is insufficient antecedent basis for these limitations in the claim.**"

Applicant requests that the examiner explain why "receiving in real time the first image" in line 5 does not provide antecedent basis.

The examiner also stated:

> **11. Claim 3 includes the limitation "a second humanoid robot, receiving, from the communications network, the motion signals from the motion sensors, the motion signals from the motion sensors causing a movement of the second robot that is correlated to a movement of the body suit." This limitation in concert with the limitations of the preceding claims makes it so the body suit receives tactile signals from a first robot and sends motion signals to the second robot. It is unclear how the system would operate with feedback from a different robot than the suit was controlling. Claims 4-7, 9-11, and 13 inherit this deficiency by nature of their dependency.**

To clarify for the examiner the motion sensors are position in the body suit, which is the body suit of the first robot. The second … robot receives the motion signals over the network from the motion sensors in the body suit of the first robot. Applicant does not understand the statement: "**It is unclear how the system would operate with feedback from a different robot than the suit was controlling.**" However, in view of the above clarification Applicant presumes that the examiner can now understand the claim.

The examiner also stated: "**12. Claim 9 recites the limitation "the microphone" in the third line. There is insufficient antecedent basis for this limitation in the claim.**"

Claim 9, the microphone has antecedent basis in claim 5, from which claim 6 depends and from which claim 9 depends.

The examiner also stated: "**13. Claim 12 recites the limitation "the set of goggles" in the first line. There is insufficient antecedent basis for this limitation in the claim.**" Applicant has amended claim 12 to call for the first set of goggles.

The examiner also stated:

> **14. Claim 24 recites the limitations, "overlay a virtual environment over one or more portions of the received first real-time image to form a first image of a virtual scene with the first image of the virtual scene ... and overlay a virtual environment over one or more portions of the received second real-time image to form a second image of a virtual scene with the second image of the virtual scene". It is unclear if the first and second images are being overlaid with the same virtual environment or if each has its own environment and scene. Claim 25 inherits this deficiency by nature of dependency.**
>
> **15. Claim 24 recites the limitations "first motion sensors disposed over the second mannequin, the first motion sensors sending motion actuating signals over a communication network, and first motion actuators disposed over the second mannequin, the first motion actuators receiving motion sensing signals from the communication network; ... and a body suit having second motion sensors disposed over the body suit, the second motion sensors sending the motion actuating signals to the first motion actuators over the communication network, the body suit further having motion actuators disposed over the body suit, the motion actuators receiving the motion sensing signals from the first motion sensors over the communication network." It is unclear what is occurring as both the first and second motion sensors are sending the motion actuating signals and both the first and first motion actuators and the motion actuators are receiving the motion sensing signals. As best understood this would create a positive feedback loop. Examiner is interpreting the claim in light of the specification which has the suit sending control data to the mannequin and receiving sensor data from said mannequin. Claim 25 inherits this deficiency by nature of dependency.**

This portion of the rejection is clearly improper. For example, the examiner states: "". **It is unclear if the first and second images are being overlaid with the same virtual environment or if each has its own environment and scene.**" In as much as the first and second images originate from first and second cameras the system can overlay the same or different virtual environments. One of ordinary skill, not to mention one skilled in the art could understand this.

As for the statement "**As best understood this would create a positive feedback loop. Examiner is interpreting the claim in light of the specification which has the suit sending control data to the mannequin and receiving sensor data from said mannequin.**" This is also clearly inaccurate. One of ordinary skill, not to mention one skilled in the art could understand these features as the first actuators receiving signals from a body suit having second motion sensors disposed over the body suit, the second motion sensors sending the motion actuating signals to the first motion actuators over the communications network, recited later in that claim. As written the claim cannot be interpreted the way the examiner interprets it because it explicitly requires second motion sensors sending the motion actuating signals to the first motion actuators.

Accordingly, these rejections have been overcome and should be removed.

35 USC § 103

The examiner rejected Claims 1, 12, 14, 18, and 22 are rejected under 35 U.S.C. 1 03(a) as being unpatentable over Yee; (US 6016385) in view of Clapper (US 67527201).

These claims are patentable over the alleged combination of references.

Claim 1 calls for "a first processor receiving in real time the first image of the scene from the first camera supported by the mannequin, the first processor overlaying a virtual environment over one or more portions of the received real-time first image to form a first image of a virtual scene with the first image of the virtual scene including at least one remaining portion of the real-time first image, and sending the first image of the virtual scene including the at least one remaining portion of the real-time first image in real time to a communications network."

One skilled in the art would not have modified Yee to overlay "a virtual environment over one or more portions of the received real-time first image to form a first image of a virtual scene," as required by this feature of claim 1 and as such would not have combined Yee with Clapper.

Yee requires an operator to take appropriate action based on conditions at the robot site (abstract). The operator modifies the operation of the robot in accordance with changed or developing conditions at the robot site effectively and quickly (column 3, lines 3-4 and lines 18-20). To what purpose would the person of ordinary skill provide a first processor receiving in real time the first image of the scene from the first camera supported by the mannequin, and overlay[ing] a virtual environment over … the received real-time first image to form a first image of a virtual scene … including at least one remaining portion of the real-time first image, . Yee would not have transmitted an image of a virtual scene to the operator, at least because the operator would be misled by the virtual scene and would not be able to take appropriate actions to control the robot. In short, this modification only arises as a result of Applicant's claims/specification.

As Yee's operator needs to respond to real, physical scenes at the robot site, not any virtual scene, to operate the robot, the examiner's proffered motivation to modify Yee's "provide a more interesting and entertaining system to the controller of the robot," would be incompatible with and likely detrimental to Yee's stated goal "to provide entertainment for general public who encounters the robot," (column 5, lines 43-48).

Accordingly, at least because the examiner's stated motivation destroys the intent, purpose, and function of Yee, the examiner has not provided the articulated reasoning necessary to sustain this rejection and obviously the examiner has resorted to ex post reasoning. As the Supreme Court has stated: "... it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *KSR Intl. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1731 (2007)

Accordingly, even if Clapper describes "overlaying a virtual environment over one or more portions of the received real-time first image to form a first image of a virtual scene," (Applicant does not concede that Clapper does) one skilled in the art would not have combined Clapper with Yee because such a combination would render Yee's system inoperable or malfunctioning.

Clapper displays to a game player a physical vehicle in a scene that includes real walls of a room where vehicle is, and virtual creatures and virtual laser targets in the room (FIG. 2 and column 3, line 64 – column 4, line 8). The game player uses the virtual laser to blast the virtual creatures (column 3, lines 62-64). Clapper's virtual objects are game data (column 4, line 1) so that the game player can interact with the virtual objects in the virtual scenes to play games. Yee provides an interaction between the operator and the general public through operation of the robot based on the physical conditions of the robot site. Clapper and Yee use different methods to achieve different goals and one skilled in the art would not have combined their methods.

Independent claim 1 is patentable over Yee and Clapper. Claims 12, 14, 18, and 22 are patentable for at least reasons similar to those discussed for claim 1. All dependent claims are patentable for at least the reasons discussed for respective independent claims.

The examiner also rejected Claims 2 and 15-17 under 35 U.S.C. 1 03(a) as being unpatentable over Yee, in view of Clapper, and further in view of Dundon (US 7,046,151).

The examiner also rejected Claims 3-9, 11, 13, 19, 21, and 23 under 35 U.S.C. 103(a) as being unpatentable over Yee, Clapper, Dundon, and further in view of Abbasi; Touraj (US 6786863 B2).

The examiner rejected Claim 10 under 35 U.S.C. 103(a) as being unpatentable over Yee, Clapper, Dundon, Abbasi, and further in view of Gutierrez (US 4982281).

The examiner rejected Claim 20 under 35 U.S.C. 103(a) as being unpatentable over Yee, Clapper, and further in view of Gutierrez.

The examiner rejected Claims 24 and 25 under 35 U.S.C. 1 03(a) as being unpatentable over Yee, Clapper, Dundon, and Abbasi.

These claims are patentable for at least reasons similar to those discussed for claim 1 and reasons of record, in that the added references do not cure the deficiencies in the alleged combination of Yee and Clapper and in instances do not suggest the claimed limitations. However, in view of the clear error in the base rejection it is not necessary for Applicant to delineate the additional errors in these other rejections.

Response to Arguments

The examiner stated: "**54. Applicant argues that the double patenting rejection is improper because the claims of the co-pending application describe or make obvious the overlaying of one or more portions of a real-time image with a virtual environment.**" Applicant did not make this statement.

Applicant strenuously argued that the claims were NOT obvious over the co-pending applications. In application 10/734618, the feature: "an adapter to send the morphed, first video image signal to a communications network and sounds in connection with a theme of the morphed" is a distinct feature from "overlaying a virtual environment over one or more portions of the received real-time first image to form a first image of a virtual scene with the first image of the virtual scene including at least one remaining portion of the real-time first image, and sending the first image of the virtual scene including the at least one remaining portion of the real-time first image in real time to a communications network." Practicing of one invention would not involve infringement of the other.

As for the examiner's statement that:

> **56. Applicant argues that Yee and Clapper are not combinable. Examiner disagrees. Yee discloses a remotely controlled robot. Clapper explicitly teaches and suggests that it is desirable for remotely controlled robots to provide a mixed reality experience (1 :20- 44 and 3:10-28). Examiner fails to see how the robot of Yee would be any less entertaining to the general public if the controller were enjoying an augmented reality experience at the same time or how this would in any way "render Yee's system inoperable or malfunctioning." The user is still in control of the robot and able to pilot it around a real world environment and interact with real and virtual objects just as intended by Yee.**

First the examiner's rejection is to modify Yee. Yee's disclosed remotely controlled robot is not for entertainment so any motivation on that basis is improper. Second, Clapper does not explicitly teach "**remotely controlled robots to provide a mixed reality experience (1:20- 44 and 3:10-28)**". Applicant requests that the examiner explicitly show where Clapper teaches this feature. Accordingly no basis exists for this combination and the combination still does not meet the features of the claims.

It is believed that all the rejections and/or objections raised by the examiner have been addressed.

In view of the foregoing remarks, applicant respectfully submits that the application is in condition for allowance and such action is respectfully requested at the examiner's earliest convenience.

All of the dependent claims are patentable for at least the reasons for which the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

The Petition for Extension of Time fee is being paid concurrently on the electronic filing system by way of deposit account authorization. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: January 7, 2011

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